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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/625,714      | 07/23/2003  | Philip L. Atwater    | 411677              | 8119             |

30955 7590 05/11/2006

LATHROP & GAGE LC  
4845 PEARL EAST CIRCLE  
SUITE 300  
BOULDER, CO 80301

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| EXAMINER |
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PAN, YUWEN

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| ART UNIT | PAPER NUMBER |
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2618

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                |  |
|------------------------------|-------------------------------|--------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/625,714 | Applicant(s)<br>ATWATER ET AL. |  |
|                              | Examiner<br>Yuwen Pan         | Art Unit<br>2618               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: To claim the benefit of a prior application under 35 USC 120, 121, or 365 ( c ), applicant must includes a reference to the prior application in compliance with 37 CFR. 1.78(a) in the first sentences of the specification or in an application data sheet. See MPEP 2001.11.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobs et al (tunnel communication test result, published in 1998).

Per claim 1 and 12, Jacobs discloses a microwave transmission system for use in communicating in confined spaces, such as mines, tunnels, industrial enclosures, buildings and the like, comprising: an enclosure selected from the group consisting of a mine, a tunnel, an industrial enclosure, and a building; and a pair of transceivers configured to transmit and receive signals through the enclosure at frequencies ranging from 5 GHz to 15 GHz (see page 20).

Art Unit: 2618

Per claim 2 and 13, Jacobs further teaches the frequencies range from 8 GHz to 12 GHz (see page 20).

Per claim 3 and 14, Jacobs further teaches the frequencies range between 10 GHz plus or minus three percent (see page 20).

Per claim 4 and 15, Jacobs further teaches pair of transceivers are configured for duplex transmission of communications signals (see page 24).

Per claim 5 and 16, Jacobs further teaches the pair of transceivers each include circuitry for transmitting call signals and circuitry for detecting the call signals, where the call signals indicate a request for a call signal recipient to man one of the transceivers (see page 24).

Per claim 6 and 17, Jacobs further teaches the circuitry for detecting call signals further includes circuitry for confirming that the call signals have been detected at a power output that is generally regarded as a safe level of RF exposure to workers (abstract).

Per claim 7 and 18, Jacobs further teaches each transceiver in the pair of transceivers is configured to operate at a power output of about 35 miliwatts or less (see page 4).

Per claim 8 and 19, Jacobs further teaches circuitry for detecting loss of signal lock (see page 24).

Per claim 9 and 20, Jacobs further teaches the circuitry for detecting loss of signal lock comprises means for detecting loss of signal lock on the basis of signal strength (see page 3 and 4).

Per claim 10 and 21, Jacobs further teaches the circuitry for detecting loss of signal lock comprises means for detecting loss of signal lock on the basis of center tuning (see page 4).

Per claim 11 and 22, Jacobs further teaches the pair of transceivers are configured to operate from power supplied by a 12 volt automotive battery (see page 24).


### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 571-272-7855. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anderson D. Matthew can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Yuwen Pan  
May 6, 2006

  
Matthew Anderson  
SPE 2618